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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,968	09/09/2003	Youngja Park	YOR920030241US1 (16751)	3125
23389	7590	12/28/2009		EXAMINER
SCULLY SCOTT MURPHY & PRESSER, PC				SAINT CYR, LEONARD
400 GARDEN CITY PLAZA				
SUITE 300			ART UNIT	PAPER NUMBER
GARDEN CITY, NY 11530			2626	
			MAIL DATE	DELIVERY MODE
			12/28/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/658,968	PARK, YOUNGJA	
	<b>Examiner</b>	<b>Art Unit</b>	
	LEONARD SAINT CYR	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 06 October 2009.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 - 15, 19 - 23, and 27 - 29 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1 - 15, 19 - 23, and 27 - 29 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 10/24/03 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/06/09 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed 10/06/09 have been fully considered but they are not persuasive.

Applicant argues that neither Goldsmith nor Kanno nor Taira teach refining the sets of candidate prefixes and suffixes, including using knowledge of prefixes previously identified in said refining to further refine the set of candidate suffixes, and using knowledge of suffixes previously identified in said refining to further refine the set of candidate prefixes (Amendment, pages 8 – 11).

The examiner disagrees, since Goldsmith discloses “**identified stems and suffixes are combined as signatures**. One the system has determined **the regular suffixes of the language, the entire lexicon is reanalyzed**. At step 502, common **pseudo-prefixes are removed from signatures**...Check each (regular) signature. If

**there is a common sequence of one or more letters which they commonly share, and which, if removed, turns the signature into another already existing signature, then that sequence of letters should be removed from the suffix.** To summarize, then: step 502 of **removing common pseudo-prefixes** allows simplification of the signature collection in a significant measure...**If such a prefix signature is found on two or more roots, then it is strictly regular, and the prefixes in it are regular prefixes in the language** (See also figs 4, and 5 that describe the refinement process; Abstract, col.8, lines 50 – 52; col.11, lines 52 – 61; col.12, line 55 - col.13, line 13).

#### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1 – 15, 19 - 23, and 27 - 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldsmith (US Patent 6,405,161) in view of Kanno (US Patent 7,103,536).

As per claim 1, Goldsmith discloses a computer system for analyzing text in one or more electronic documents (see col. 3 lines 66-67 - col. 4, lines 1-4), comprising: one or more system interfaces (see fig. 2, element 202 and 208 and col. 6, lines 34 - 40); and an affix process that determines one or more affixes of one or more words in one or more of the documents and provides the affixes to the system interface (see fig. 1 step 104 and col. 5, lines 22-24);

obtaining collection of words; refining the sets of candidate prefixes and suffixes to identify actual prefixes (“regular prefix signatures”) and suffixes (“identify regular signatures”), including using knowledge of prefixes previously identified in said refining, to further refine the set of candidate suffixes (**“sequence of letters should be removed from the suffix”**) and using knowledge of suffixes previously identified in said refining to further refine the set of candidate prefixes (**“If such a prefix signature is found on two or more roots, then it is strictly regular, and the prefixes in it are regular prefixes in the language”**; See also figs 4, and 5 that describe the refinement process; Abstract, col.8, lines 50 – 52; col.11, lines 52 – 61; col.12, line 55 - col.13, line 13).

Goldsmith does not specifically adding the words into a prefix Patricia Tree, using the prefix Patricia Tree to identify a set of candidate prefixes, reversing each of the words, adding the reversed words into a suffix Patricia Tree, using the suffix Patricia Tree to identify a set of candidate suffixes.

Kanno discloses a data structure, **such as Patricia Tree**; an efficient retrieval method for complete matching and prefix matching is realized by using the data structure called TRIE; **reversing a word and adding it to a Patricia tree for (“postfix”) suffix matching** (see col. 1, lines 36 – 39, and 44 – 47; col.31, lines 52 - 55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use prefix and suffix matching as taught by Kanno in Goldsmith, because that would help improve the retrieving system (col.3, lines 25 - 29).

As per claim 2, Goldsmith in view of Kanno further disclose where one or more of the affixes are nested affixes, each nested affix comprising one or more affixes (“suffixes ing and ingly”; Goldsmith; see col. 6, lines 1-5).

As per claim 3, Goldsmith in view of Kanno further disclose where the affix process determines one or more suffixes of one or more of the words (“affixes such as prefixes and suffixes”; Goldsmith see fig. 1, step 104; col. 5, lines 22- 24; col.1, lines 14 - 16).

As per claim 4, Goldsmith in view of Kanno further disclose where one or more of the suffixes are nested suffixes, each nested suffix comprising one or more suffixes (“suffixes ing and ingly”; Goldsmith see col. 6, lines 1-5).

As per claim 5, Goldsmith in view of Kanno further disclose where the affix process determines one or more infixes of one or more of the words ("infix matching"; Kanno, Abstract).

As per claim 6, Goldsmith in view of Kanno further disclose where one or more of the infixes are nested infixes, each nested infix comprising one or more infixes (“suffixes ing and ingly”; Goldsmith see col. 1, lines 19-22 and see col. 6, lines 1-5; see also Kanno, col.3, lines 26 – 29 “Infix matching”).

As per claim 7, Goldsmith in view of Kanno further disclose wherein the affix process determines one or more prefixes of one or more of the words (Goldsmith; see fig. 1 step 108 and col. 6, lines 9-10; col.1, lines 14 - 16).

As per claim 8, Goldsmith in view of Kanno further suggest wherein one or more of the prefixes are nested prefixes, each nested prefix comprising one or more prefix (“affixes such as prefixes and suffixes”; Goldsmith; see col. 13, lines 6-7).

As per claim 9, Goldsmith in view of Kanno further disclose where the interface compiles a list of affixes (“suffixes”) that are in one or more of the documents (“corpus is a text”; Goldsmith; see col. 5, lines 62 - 66; col.5, lines 13 - 16).

As per claim 10, Goldsmith in view of Kanno further disclose where the affixes are not listed in a dictionary that is accessible to the system (Goldsmith; see col. 5, lines 37-38, where the affix is determined by determining the optimal division, not by referring to a dictionary)

As per claim 11, Goldsmith in view of Kanno further disclose where the system interface is any one or more of the following: a graphical user interface, a print out, an interface to a text analysis system (“an attached printer”; Goldsmith; see fig. 2, lines elements 202 and 208 and see col. 6, lines 31-40).

As per claim 12, Goldsmith in view of Kanno further disclose that the affix process uses a Patricia tree to show substrings of words (Kanno; see col. 1, lines 36 – 39, and 44 – 47; col. 31, lines 52 - 55).

As per claim 13, Goldsmith discloses a method for analyzing text in one or more electronic documents (see col. 3 lines 66-67 - col. 4, lines 1-4), comprising the steps:

using a computer system to perform an affix process that determines one or more affixes of one or more words in one or more of the electronic documents (see fig. 2 and col. 6, lines 31-33, where the method of fig. 1, describes the affix determination process); and

providing the determined one or more of the affixes to an interface of the computer system for display to a user (“visual display”; see fig. 2, element 208 and col. 6, lines 39-40);

the step of using the computer system includes the steps of obtaining collection of words; refining the sets of candidate prefixes and suffixes to identify actual prefixes (“regular prefix signatures”) and suffixes (“identify regular signatures”), including using knowledge of prefixes previously identified in said refining, to further refine the set of candidate suffixes (**“sequence of letters should be removed from the suffix”**) and using knowledge of suffixes previously identified in said refining to further refine the set of candidate prefixes (**“If such a prefix signature is found on two or more roots, then it is strictly regular, and the prefixes in it are regular prefixes in the**

**language**"; See also figs 4, and 5 that describe the refinement process; Abstract, col.8, lines 50 – 52; col.11, lines 52 – 61; col.12, line 55 - col.13, line 13).

Goldsmith does not specifically adding the words into a prefix Patricia Tree, using the prefix Patricia Tree to identify a set of candidate prefixes, reversing each of the words, adding the reversed words into a suffix Patricia Tree, using the suffix Patricia Tree to identify a set of candidate suffixes.

Kanno discloses a data structure, such as Patricia Tree; an efficient retrieval method for complete matching and prefix matching is realized by using the data structure called TRIE; **reversing a word and adding it to a Patricia tree for ("postfix") suffix matching** (see col. 1, lines 36 – 39, and 44 – 47; col.31, lines 52 - 55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use prefix and suffix matching as taught by Kanno in Goldsmith, because that would help improve the retrieving system (col.3, lines 25 - 29).

As per claim 21, Goldsmith teach a program storage device readable by machine, tangibly embodying a program of instructions executed by the machine to perform method steps for analyzing text in one or more electronic documents (see col. 3 lines 66-67 - col. 4, lines 1-4), said method steps comprising:

using a computer system to perform an affix process that determines one or more affixes of one or more words in one or more of the electronic documents (see fig.

2 and col. 6, lines 31-33, where the method of fig. 1, describes the affix determination process); and

providing the determined one or more of the affixes to an interface of the computer system for display to a user (“visual display”; see fig. 2, element 208 and col. 6, lines 39-40);

the step of using the computer system includes the steps of obtaining collection of words; refining the sets of candidate prefixes and suffixes to identify actual prefixes (“regular prefix signatures”) and suffixes (“identify regular signatures”), including using knowledge of prefixes previously identified in said refining, to further refine the set of candidate suffixes (**“sequence of letters should be removed from the suffix”**) and using knowledge of suffixes previously identified in said refining to further refine the set of candidate prefixes (**“If such a prefix signature is found on two or more roots, then it is strictly regular, and the prefixes in it are regular prefixes in the language”**; See also figs 4, and 5 that describe the refinement process; Abstract, col.8, lines 50 – 52; col.11, lines 52 – 61; col.12, line 55 - col.13, line 13).

Goldsmith does not specifically adding the words into a prefix Patricia Tree, using the prefix Patricia Tree to identify a set of candidate prefixes, reversing each of the words, adding the reversed words into a suffix Patricia Tree, using the suffix Patricia Tree to identify a set of candidate suffixes.

Kanno discloses a data structure, such as Patricia Tree; an efficient retrieval method for complete matching and prefix matching is realized by using the data structure called TRIE; **reversing a word and adding it to a Patricia tree for**

**(“postfix”)** **suffix matching** (see col. 1, lines 36 – 39, and 44 – 47; col.31, lines 52 - 55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use prefix and suffix matching as taught by Kanno in Goldsmith, because that would help improve the retrieving system (col.3, lines 25 - 29).

As per claims 14, and 22 Goldsmith in view of Kanno further disclose wherein at least one of the affixes is a nested affix including a plurality of affixes (“suffixes ing and ingly”; Goldsmith; see col. 6, lines 1-5).

As per claims 15, and 23 Goldsmith in view of Kanno further disclose, the step of, said interface compiling a list of the determined one or more affixes (“affixes such as prefixes and suffixes”; Goldsmith; see col. 5, lines 62-66).

As per claims 19, and 27 Goldsmith in view of Kanno further disclose that the using step includes the further step of counting stems, which meet defined criteria, for the affixes for the words in said set of words (“**identifying stems, and multiplets of related stems**”; Goldsmith; see col. 6, lines 66 -col. 7, line 7; col.1, lines 48 - 50).

As per claims 20, and 28 Goldsmith in view of Kanno further disambiguating at least some of the potential affixes to identify nested affixes (“suffixes ing and ingly”; Goldsmith; see col. 6, lines 1-5).

As per claim 29, Goldsmith in view of Kanno further disclose a plurality of the affixes include non-alphabetic characters including digits and hyphens (col.5, lines 62 – 67). Goldsmith in view of Kanno do not specifically teach disambiguating some of the affixes; generating new affixes from the disambiguated affixes. However, a morphology for a language has been developed by a trained linguist working manually to identify the appropriate stems and affixes and other structural features of a language (col.1, lines 18 – 22). One having ordinary skill in the art at the time the invention was made would have found it obvious to disambiguate affixes in Goldsmith, because that would help collect and organize stems and associated affixes (col. 1, lines 15, and 16).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS

12/14/09

/Leonard Saint-Cyr/

Examiner, Art Unit 2626